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"Industrial Nurse"

THIS is the opening page of the initial Quarterly Supplement to INDUSTRIAL MEDICINE under the title "Industrial Nurse." The Supplement is intended to afford the nurse in industry a medium wherein, as to all matters of her own professional interests, her experiences, ideas, suggestions and opinions, she can *be herself*. The bedrock of its editorial policy is that, *first*, the industrial nurse is *the nurse*, and *second*, that she is *in industry*. The inter-relations of these two facts, and all the implications and connotations of their being together, are the primary field of this enterprise. The Supplement is to be the Industrial Nurses' Journal—of, for, and by those of their number who have something to say concerning their work and their reactions to it, and who want to say it here.

As to the field in general, much more has been said of the industrial nurse than of her job. This has been largely through repeated expressions of the philosophy of industrial nursing in terms of "ought" and "should"—as to both of which there is a plethora of injunctions. It is probable, however, that this was necessary. There are differences inherent in the industrial situation which have taken time to become apparent and have had to be discovered by each nurse herself. The basis of these differences as she finds them is well worded by WINIFRED HARDIMAN (page 503): "She deals with private citizens temporarily handicapped and not with hospital or charity cases."

The corollaries of that statement are as numerous and varied as the differences between individuals, with the superimposed complications of the innumerable physical and emotional responses and reactions of the individuals to the economics of their places as workers.

The goal of industrial medicine, of course, is industrial health. Health, however, is less familiar to either the physician or the nurse than sickness, yet *industrial* health is a vastly larger field for both. If health has degrees, that degree of health that will enable one person to be an efficient productive unit in a plant or office may be more or less than another person needs for the same pur-

pose. And the line dividing the one from the other, as well as the line between the degree of health that is individually effective and the degree that isn't, is not a line at all but a region of indistinctness, a penumbra of conditions that need very little to switch them from one side to the other. Yet this shadowy field is the place of the industrial nurse's most effective possibilities; the sum total of her experiences within its vague and varying boundaries will evolve, from her career, as "a jewel of a thousand eyes."

It is thought advisable in this beginning issue to gather together some of the most important of the "oughts" and "shoulds"—a good idea to get them all in one place. In the succeeding issues we can go on from there. How far we go, and how fast, will depend upon the industrial nurses' cooperation. To them, therefore, we commend this beginning, in the hope that their cooperation will be freely forthcoming.

The Industrial Nurse

—In the National Defense Program—

WINIFRED HARDIMAN, R.N.,
The Terry Steam Turbine Co.,
Hartford, Connecticut

THE duties of the industrial nurse depend on the plant in which she works and her sales ability. If she understands the cardinal principles of salesmanship, she will have no trouble in selling her services to employer or employee.

First, last, and always, the industrial nurse has to be a health teacher—she cannot help herself, the issue is forced upon her—and who is better qualified to teach *what not to do* rather than what to do? She will meet with some competition in *selling what not to do,* because the radio and advertisements in general are such insistent exponents of *what to do.*

Many nurses are going on quietly, individually teaching health without being conscious that they are doing so. In this modern age, it isn't what one does that seems to make an impression, but rather the noise and bustle one makes doing it.

The nurse's job usually covers social service, supervision of sanitation, accidents and health. She sits in with the safety committee; she hears the accident story firsthand, and must write up a detailed account of the hazards that cause the injuries, and she has other excellent opportunities for gleaning information which should be valuable to the committee. She must teach the importance of observing safety rules, and the danger of not reporting immediately all accidents, whether traumatic, occupational, or nonoccupational — the latter may need medical attention. The tiny scratches need watching far more than any other injury. Because they seem so trivial, the injured man is apt not to pay much attention to them. Nevertheless, they are very dangerous to life and limb. Consequently, it is of paramount importance to watch out for the little things, as this is the secret of success in eliminating infections and more serious consequences.

In our own Health Service Department, our history shows that during our 23-year period we have not had one infection that was reported early, and we have had only two lost-time cases due to late reporting of infinitesimal injuries.

OCCUPATIONAL diseases also enter into the safety program and are quite as essential to cope with; they can cost huge sums. In spite of the safeguarding of machines, there will always be accidents and occupational diseases because of the reluctance of human beings to heed advice.

A registered nurse is not expected to be an engineer, a chemist, or a doctor. She does not have to be any of these to have an intelligent appreciation of materials or processes in her plant and to know when they are under control. For instance, benzol, and the havoc it can raise. It can be used if properly controlled. If 10 or 20 girls come in complaining of headaches, bleeding gums or menstrual irregularity, benzol *might* be the cause, if they were using this substance in their department. If a nurse knows her plant, she must look into this. And so with other materials, such as cutting oils, kerosene, gasoline, putty, dust particles, and grinders, the latter particularly if they contain silicon or any other abrasives that might be employed. It is very important, when men working with solvents complain of headache, nausea and malaise, that she must look for removal of the cause. If a nurse is to function effectively she must know the toxic symptoms of various poisons so that she can do preventive work by bringing significant symptoms to the proper authorities for action. Many times the nurse is the first person who gets this information, and by obtaining a complete history of these symptoms she is very valuable in helping the physician and the hygienist to remove the cause. Her cooperation with the industrial hygienists is particularly important.

We have touched briefly upon industrial health, but what about accidents and diseases outside the plant? I know of a plant with approximately 200 employees in which the lost time was as follows:

Cause	No. of Persons	Days Lost
Inside injuries	4	98
Outside injuries	8	109
Colds — respiratory	56	478½
Various illnesses	26	325
		912½

This makes a total of 912½ days, or four and one-half days per employee, due to outside causes, compared with one-half day per employee from inside causes. The nurse, being the point of contact and in a key position to get information on

all things pertaining to the employees and their families, must know the "why" as well as the "how."

Insurance premiums are reviewed annually. Each manufacturer must pay according to his risk experience. Whether this goes up or down depends on the control of the hazards in his plant. Therefore, the nurse must compile accurate records and picturize them so that the assurer who reads them can visualize the type of accident, how it occurred, the time, and the department. Every bit of information she can gather is very important, especially if the case has to go to court. The original record is the only one that is recognized by the court, and her record tells the story even though the injured changes his tale.

THE industrial nurse reaches outside the plant as well as within, and accidents are but a small part of her work. She supervises the general health of the worker, teaches him the "ounce of prevention," especially if he is not feeling well, as the ill worker is more apt to heed good advice than the well worker. She knows that worry, fatigue, part-time jobs (after hours), wrong dietary habits, lack of security and emotional upsets are the combining factors that undermine health. She also knows that all problems these present can be best attacked at the psychological moment. Never at the wrong time.

She recommends that he go to the dentist, the oculist, the surgeon, the physician, or even the lawyer if necessary. It may be an adolescent boy or girl that is troubling the parents. By recommending that such a child be taken to the Mental Health Clinic where troubles of the kind are ironed out, the nurse is often instrumental in bringing about the necessary adjustments. A worker came in one day very much disturbed because the high school teacher had told the parents that the boy was not a student and never would be, and that the thing for the father to do was to put him to work. We questioned the father and discovered that his older boy was a great student, preparing for college, but the young lad was going to the movies instead of studying after school hours. We talked with the boy's teacher, and this man decided that the boy was more or less of a moron. We asked about the advisability of sending the boy to trade school. He did not think it would work out. We then turned him over to the Mental Health Clinic. The reason for his going to the movies was for two hours of forgetfulness from home worry. This boy did go to trade school, and when we contacted the trade school we were told that he was excellent, that he had joined their orchestra, and that they wished they had a thousand like him. He learned the printer's trade, and now has a fine job with one of our insurance companies.

It is also important for the nurse to cooperate with community, state, social and welfare agencies. She visits the home to see that the worker has the right care, and if he needs nursing care she turns the case over to the V.N.A.

I CANNOT imagine, in all my various experiences, a job that requires more patience, tact, persistence, executive ability and imagination than does that of the industrial nurse. She has to be alert, progressive, and able to sense a situation when the occasion arises. She deals with private citizens temporarily handicapped and not with hospital or charity cases, and there is a vast difference between them.

In dealing with the problems that confront her, how she meets them is very important. She needs theory, of course, but by and large, she needs practical experience that cannot be learned from a book, but only by actually working in a plant—not for a day but for months. I believe that, as Goldsmith says, "Knowledge is of two kinds; you either know it yourself, or where to get information on it." The only way a nurse can get information on industrial nursing is to go into the factory with some other industrial nurse.

WE realize that industry is run for profit. It has to earn or go out of business. Its job is to bring goods and services to mankind. It has already assumed important obligations. And we know, too, that industry, the employer, realizes that defense depends on the products of industry that are most important for the protection of our nation, and that the nurse is a very vital link in the service of getting them ready. The good industrial nurse never forgets that good health, both mental and physical, is an important adjunct in health and accident prevention. Her value in this program cannot be measured in dollars or cents. It is reflected in the good will of the individual worker towards his employer and towards the community in which he lives.

How does the industrial nurse fit into the defense picture? Her job here is especially important; her part is to help guard the workers who build and service defense equipment from the dangers that threaten their health and strength in order to avoid the crippling of man-power.

The nurse in her strategic position can continue in the picture by teaching health. She can arrange to have speakers and movies on syphilis, gonorrhea, tuberculosis, dental and personal hygiene. Meetings can be arranged, with speakers from local and state health medical departments. These agencies are equipped to bring to the workers in industry the information they need to maintain optimum health, not only while in the factory, but outside as well.

The foregoing are some of the problems to be faced; if neglected, they will undermine the strength of the nation. Because of them there is a great danger of wasted man-power among the nations' defenders. Therefore, the nurse's job, now more than ever, is teaching health, and one of her most important duties is to see that the patient consults a physician and does not try to doctor himself or take advice from his friends. We are living in an age where education counts more than it did in the past years. Particularly is this true of health education. So much depends

on it because of the necessity for the protection of man-power.

Our employer takes it for granted that our service to his workers is that of an alert and wide-awake nurse. He cannot be informed on all new measures for his advantage. Consequently, we owe it to him to keep him well informed on public health, and we must see that he gets the benefits offered.

Thus, as a matter of fact, in her general work, and particularly in her place in the defense program, the industrial nurse is a specialist.

Finally, with all her special duties, the nurse must look at herself. She may know what she is doing in her own little corner, but it helps to know what other industrial plants and agencies are doing and whether or not they have discovered a better technique than hers.

We live in a world where we cannot help but be dependent on other people. It is part of our lives, but we must not let it become too large a part. Polonius' words might be fitted into the lives of every industrial nurse: "Above all, to thine ownself be true, and it shall follow as the night the day, thou cans't not then be false to any man."

Problems of the Visiting Nurse

ANNA M. CALLAHAN, R.N.,
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THE average employee at the Bayonne Refinery is health conscious. When the necessity arises for him to lose time from work on account of illness or non-industrial accident he realizes the necessity of having proper medical care. In most instances he will consult his family doctor, carry out the prescribed treatment and return to work in record time.

On the other hand, there are some who, through ignorance or lack of cooperation, present many problems that require close supervision. There is the ill employee who is unwilling to have medical attention regardless of the seriousness of his condition. Such cases have to be treated individually according to the reason advanced for this unwillingness. One may have a fear of a doctor, another thinks he can prescribe for himself, while still another may feel that he is unable to incur the expense of a doctor's visit.

Even in this age some people have an innate fear of a doctor and what his work implies. They believe that he will either find something seriously wrong and recommend a long confinement or send the patient to the hospital. In such instances the problem of the visiting nurse requires tact and reasoning to overcome fear in order to get the patient's consent to have a medical examination or to have him admitted to a hospital for a few days observation.

The Medical Bulletin, Standard Oil Company (N. J.), Vol. 5, No. 2, October, 1941.

Old Fashioned Remedies

THERE are a surprising number of people who believe they have the ability to diagnose their illnesses and prescribe for themselves. We have a large foreign-born group in this class. Recently one of these men, confined to bed with a rheumatic condition, was using cabbage leaves boiled in water and kerosene as hot applications. He finally consented to call his physician and upon recovery gave all credit to the cabbage leaves.

Fortunately the use of cupping and leeches among this class is gradually dying out. The nurse whose duty it is to handle these cases has to point out the serious consequences that may result from self-treatment, to say nothing of the expense involved in the purchasing of patent medicines. The cost of these alone is often far greater than the usual doctor's fee.

Adequate Medical Care

REGARDLESS of the fact that there is a hospitalization plan available to all employees and that the hospital clinic is free to those who cannot afford a doctor's service, there are still some employees who when taken ill do not have the proper medical attention because of the expense involved. Some of these men, when questioned, are found to be able to pay a doctor's fee, but regard it as a needless expense and will try to get free treatment or financial aid. Others may have had heavy expenses and are really in need of help. The nurse is able to assist in these cases by advising the patient who can afford it, to have his own private doctor; others may be referred to hospital clinics or, if confined to bed, then the case is discussed thoroughly with the Welfare Department and if, after investigation, the case is found to be deserving of help, assistance is given.

Doctor Habit

IN contrast to this group, there are those employees who have the "doctor habit." These are usually of the neurotic type who will call a doctor upon the slightest provocation. If improvement does not follow after taking one or two doses of medicine they will call another physician. In certain instances I have seen as many as three different doctors call to see the same patient in three days. These cases are rather difficult for the nurse and it takes a great deal of patience and time to convince them that they are unfair to themselves, as well as to the doctor in not allowing a sufficient length of time to elapse in order for the treatment to prove its merits. The needless expense involved in the frequent change in physicians should be emphasized.

Prolonged Convalescence

THE employee who tries to prolong his illness is another problem for the visiting nurse. Occasionally one of these may appear to enjoy the role of an invalid, while others think they need a long rest cure. Such cases are referred to the company doctor who decides the final disposition.

Chronic Cases

THERE are always a large number of chronic cases—heart disease, hypertension, etc.—losing time. These men, after a long period of illness, become very depressed and are grateful to the nurse for a little encouragement and sympathy. After many years of laborious work, they do not understand the necessity for complete rest and often are found helping out with the family chores. On one call, a chronic heart case was found painting the window screens. When the seriousness of his illness was pointed out to the family, and what might be the result of any undue exertion, they agreed to keep all such work away from the patient and to see that he rested.

The cases mentioned will, I think, give a fair idea of some of the situations that arise in the course of the nurse's visits. To have success in this work, the nurse must win the confidence of the patient. This done, and her advice and suggestions followed, the period of illness is shortened and the man is able to return to his work with a minimum amount of sickness time lost.

The Brighter Side

GENERALLY speaking, however, the man who is ill, realizes the company's interest in his welfare. He dislikes losing time and is eager to get back on his job. The attitude of these cases to the nurse's visits can be best described by the phrase so often used when she is departing, "Thank you, nurse, for calling."

Emotional Health

—In Industry—

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EMOTIONAL health in industry is a subject previously little thought of, but time has proved that it is closely linked with the physical welfare of both the employee and the employer.

So far as industry is concerned, emotional health may be distinguished from physical health in terms of employees' wants and employees' needs; that is, let us say that physical health is based on employees' needs, whereas emotional health is based on employees' wants.

In general, industries have been slow in turning to psychology for guidance and training in how best to deal with the human factor as it appears in and affects industrial efficiency and progress.

The conception of employees' needs has changed a great deal during the past few years. Previously, when we spoke of needs, we thought of a subsistence standard of living. Now we speak of:

1. Wages based on community averages with legal minimums.
2. Maximum hours established by law.
3. Safe, sanitary, and comfortable working conditions—also regulated to some extent by law.

These are the three basic requirements or needs of employees: Wages, maximum hours, and sanitary, satisfactory working conditions. They are all vital to physical health. Physical health, in turn, is a prerequisite for emotional health in industry.

The ancient saying that "man cannot live by bread alone," can be dressed up and put into modern phraseology by saying that contented and efficient workers cannot be obtained and maintained in industry only by meeting their physical needs. We cannot have an efficient working force unless we have a force whose wants as well as needs can be fulfilled.

Let us consider some of these wants:

1. There is *security*—workers want security through seniority plans, pension plans.
2. They want some kind of *health insurance* to replace their wages when they are sick or disabled. They want *hospitalization insurance* for the same reason, and the cheaper form of life insurance that can be obtained from group insurance plans.
3. They want to feel that they are considered for better jobs as they occur through a policy of promotion from within the ranks. They want to know how they stand with their boss, what their chances for advancement are, etc. Employee rating plans try to fill this want.
4. Employees seek a certain amount of organized recreation and organized social activities from their company.
5. Employee initiative should be recompensed through a suggestion system which grants cash awards for their suggestions.

In general, employees desire adequate protection on their jobs and in their plants from industrial and occupational hazards, and they want to feel free to make use of medical and first-aid facilities.

In short, we can say that nearly all large concerns and many small ones have a highly developed industrial relations program covering all of these fields and designed primarily for the emotional health of employees.

When these programs fail on a large scale, we have strikes and other interferences with production. When they fail on an individual scale, we have the individual bringing in his case either to the Personnel Department or submitting it in the form of a grievance to his union representatives. A clearly defined and thoroughly understood and established procedure for the adjustment of grievances is a safety valve for emotional ills that are not cured by administration of an industrial relations program.

Of course, some concerns do go to the extent of having a psychologist or a psychiatrist regularly employed on their staff to handle problem cases. Most concerns with as well developed a program as we have described, do not find it necessary to have a staff psychologist, but supplement their work through the use of emotional stability and vocational interest, tests, and interviews, trying to help those who are emotionally unsuited to their work or surroundings.

The Industrial Nurse

THE industrial nurse fits into the program by understanding the emotional background of each employee in order to know how to deal with the various types of people—the abnormally sensitive, the over-conscientious, the depressive, the day dreamer, etc. These types may be found in all branches of work from the assembly line to the foreman and executive.

Any person who is emotionally unstable and maladjusted is just as ill as though he were the victim of an acute infectious disease. It is up to the nurse to know her own individual types in her plant in order that she may be competent to cope with all the many situations that might arise.

The relationship between management and workers has reached the point of systematic organization and planning, of which the industrial nurse has become a vital part.

How the nurse treats the patient is extremely important—her ability to allay fear—stimulate confidence—give advice—her skill in teaching, all these promote the employee's welfare.

Emotional upheavals are common in industry, and the nurse has the opportunity to discover the cause, and, by patience and ability, to create the confidence between employer and employee which is so vitally essential.

Fatigue also comes under emotional health. Is a worker ill because he is tired or is he tired because he is ill? The answer must be worked out by studying the individual. Normal fatigue we know should respond to sufficient rest, including food and sleep. Mental fatigue is due to intensive or extensive mental work, and nervous fatigue is due to exhaustion of nerve force.

When fatigue is apparent, the employee is listless, the hourly rate of production falls off, there is a decrease in the amount of power used, an increase in work which does not pass inspection, and—the big factor—an increase in the frequency of accidents.

At present, there is so much over-time in plants due to the Defense Program that the industrial nurse should suggest to her people that they adjust their time while away from work so as to promote relaxation, guard their physical health, and have their home life congenial, as this will aid in relieving the mental and physical strains while at work.

We have done wonders in keeping the body well. It is our job now to recognize the sick mind and make it also well. It is surprising how much we can do for our employees when we learn something of the emotional make-up of each person.

The Nursing Sphere

ONLY in recent years has relationship between management and workers reached the point of systematic organization and planning. Service in this field is a by-product of the nurse's regular work, but apparently it is a main consideration to the industrial relations department, for someone in outlining an industrial relations program recently listed eight divisions—employment, education, health, safety, welfare, sanitation, recreation and rehabilitation—and the nurse was a prominent figure in every one of them!

In industry it is extremely important *how* the nurse treats the patient, for the employer-employee relationship is affected by her manner, her receptivity to confidences, her ability to allay fear and to give helpful advice, her skill in teaching, and her general exhibition of interest in everything that promises to promote the employee's welfare.

The natural inclination of a doctor would be to deprecate the trend toward the nurse scattering her energies by acting as a personnel adviser on all sorts of problems. He might contend that industry hires nurses because they want nurses, and nursing is what the nurse is peculiarly fitted to do. But it may be conceded that her very training as a nurse, and the position in which it places her in industry, should peculiarly fit her for this broader field. Certainly if she can help to relieve employees' mental and emotional, as well as physical, distress, she is thereby also improving their health, and is, therefore, still within the nursing sphere. We are simply making that sphere more comprehensive.

MALCOLM T. MACEACHERN, M.D., Associate Director, American College of Surgeons. Paper presented at the Twenty-Ninth National Safety Congress.

The Nurses' Contribution

—To an Industrial Health Program—

VICTORIA C. STRALKO, R.N.
Foote Bros. Gear and Machine Corporation, Chicago

I WISH I could set up rules and tell you just what a nurse can or can not contribute to an industrial health program. But I can't, nor would I attempt to, because as we all know, each industry is a world of its own and a law unto itself, and the contributions that a nurse can make to the health program depend entirely upon the size of the plant, the management, the geographic location, the labor conditions, and the nurse's initiative and ability.

In the large plant where there is a full-time physician to assume responsibilities and the nurse's duties are more or less specialized and under the physician's direct supervision, the opportunities to contribute to a health program are somewhat limited in comparison to those of the nurse in the small plant who is left primarily to her own resources.

Because the time is so limited I am not going to attempt to discuss the opportunities of the nurse in the large plant. I wish only to say that, regardless of the fact that in the large industry the major portion of the nurse's time is taken up with the dressings of injuries, the alert nurse will find opportunities to teach health and safety and will

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be able to suggest ways and means for helping the worker meet his problems.

My discussion will be for the nurse in the small plant who has unlimited opportunities to contribute to the welfare of the workers, and who, frequently because no particular person is assigned to safety work, must assume some of the responsibility of developing the safety program. This is the nurse who needs most of our help and encouragement—not only because the success or failure of the medical department rests upon her shoulders, and a failure at this time stands out like a sore thumb; but also because the nurse in the small plant, who works day after day without any stimulus, without anyone to criticize or encourage, without anyone to watch her progress and offer suggestions, is in danger of getting into a rut and becoming satisfied with partial accomplishments, which is death to better things.

One of the first responsibilities of the industrial nurse when setting up a health program is accurately to interpret the employer's policies regarding health and safety, so that at no time will she be interfering with factory or business routine. In most instances industry is perfectly willing to furnish a sufficiently complete health maintenance service to protect the employees against harmful working conditions, and to assist them in avoiding ordinary sicknesses, but industry is not in the business of practicing medicine, and it cannot have production interfered with.

I am not going to attempt to discuss or elaborate on the relationship between health and safety. It has already been pointed out that health and safety are inseparable.

Naturally the logical time to give the employee instructions regarding safety is at the time he is accepted for employment. This is also the time to begin the health program, to help the employee adjust himself to his new environment, and to confirm his confidence in the organization he has chosen to work in.

Under ideal conditions the company doctor will assume most of this responsibility. He will discuss with the applicant his defects, he will explain the hazards of the job, interpret to the employee the company policy regarding health and accidents, and will try to gain his confidence and make him feel that he has an impartial friend in the plant who is interested in his welfare and to whom he can bring any of his problems.

In the so-called small industries, however, the doctor does not assume this responsibility. He examines the applicant, usually at his office, suggests obvious defects be corrected, passes or rejects the applicant, and then sends his report to the company. The applicant goes away congratulating himself on being in perfect condition—often not realizing that he passed the examination and got the job not because he was in perfect health, but because he came within certain specifications and in the eyes of the company was considered a satisfactory risk.

If nothing is done about the physical examination report the value of that examination is lost. Even though the examining physician may tell "John" his defects and suggest that they be corrected, unless someone takes an active personal interest he is not apt to take this advice seriously, and in a few weeks will probably forget all about it.

But if the nurse will discuss John's physical examination with him, point out the importance of correcting these defects, and if he is to work on a hazardous job, instruct him in the nature of the hazard and the means of protecting himself, he will feel that someone is taking a personal interest in him. He will probably find it easier to adjust himself to his new environment and is more apt to report illness and injuries, and will often bring many of his personal problems to her.

I have found that when I show a personal interest in the worker, particularly when he is first employed, knows no one in the plant, feels rather lost and is more or less afraid of the "bosses," I have made a friend, and because of the confidential nature of my work he will frequently discuss problems with me that he would not discuss with anyone else.

The nurse's efforts must not cease, however, after the initial contact. Following up the progress the employee makes is also very important. John will probably promise faithfully to have his teeth fixed just as soon as he gets some "dough." He no doubt really intends to, but one week passes and he postpones it, the next week he has something else to do, the next week he still doesn't have the money, and so on until after a time he doesn't even think about it. But if the nurse will check up to see if he has made any effort to correct the defect, he will again become conscious of it and after a time will do something about it.

Time is an important element in our industrial set-up today, and it would not be practical for the nurse to have all the men with defects reporting to her periodically, no matter how desirable. However, there is no reason why she cannot have an impromptu check-up with the men as they come into the first aid room for dressings of minor injuries. In this respect a good memory is an invaluable asset. Men like to be recognized, and your suggestions will carry much more weight if you are able to say, "What have you done about your teeth, John?" than if you ask his name and then check his file.

The correction of physical defects, however, should not be the only goal of the health program. Personal problems of the employee often lie in the field of mental rather than physical health, and an employee who is not adjusted to his job, his environment, and who has personal problems he is worrying about is not an adequate producer in industry. The nurse must keep these facts in mind, and when a worker approaches her with a problem she should be able to offer intelligent advice, and should be able to help him solve his problems or send him to the individual who can do so. Frequently serious problems in the plant have resulted from personal problems which the employee was unwilling to discuss with his superiors, but

if the nurse has his confidence he might discuss them with her and in this respect the nurse can be of real service, not only to the employee but to the employer as well.

The nurse should cooperate with private physicians and communal agencies in helping to rehabilitate ailing workers, or, if such agencies are not available, to take the initiative, with the approval of the employer, in arranging needed service. Also, in so far as possible, the nurse can advise the workers on family problems and illness and recommend community services. She should be constantly on the alert for contagious diseases and report them to the proper authorities. Time does not permit me to elaborate on all the ways the nurse can help contribute to the welfare of the worker, but if she will realize the important part the wage earner plays in the industrial, community and family circle she will not be content to confine her work to wrapping fingers.

Health education is also an important part of the nurse's contribution to the health program, and all of the methods utilized in popular health education can be used by the nurse in industry. Talks by the nurse to groups of employees can be very valuable, especially if the subject matter is related to their jobs or to local circumstances. Where group instruction is not practical individual instructions should be given. Although this personal instruction is more time-consuming it is also more effective. The nurse can also contribute timely articles to plant publications. She can have a ready supply of pamphlets on different health and nutritional subjects and distribute them to the workers to supplement her instructions. She can secure attractive educational posters and display them in advantageous places. She can make a special effort to instruct in personal hygiene, and where possible check sanitary conditions of work rooms and locker rooms. She can cooperate with the manager of the lunch room and help plan nutritious and attractive meals, and, because the social and recreational program plays an important part in the health and welfare program of any organization, the nurse should not hesitate to contribute her services in any way possible and to participate in any of the gatherings. Her participation in social and recreational activities will give her an opportunity to know the workers' families and this knowledge can help her in her work.

I have said a great deal about the nurse giving advice, working on the safety program, advising on hazards and methods of prevention, etc., but the nurse cannot and should not give any advice if she is not certain of her knowledge. It is far better to say, "I don't know, but I'll find out," than to take the "I know it all" attitude.

In order really to do her job well she must be constantly on her toes, she must continue her education, she must keep up with the progress being made in the industrial field, and she must be able to recognize her limitations.

She should have a fair knowledge of the jobs in the plant, the hazards connected with those jobs, and the men working on them. She should be able to recognize symptoms peculiar to the hazards in the plant and immediately call them to the attention of the plant physician. She should not by any means attempt to correct conditions, but she should call these conditions to the attention of the proper individual.

Lastly, she should keep an accurate record of all the visits made to the dispensary. This is just as important as any other phase of the work and should not be neglected.

All of this probably sounds idealistic, and you wonder if any one will ever do the job the way it should be done and where you could find a person who would even measure up to the standard set. To this I can only quote these lines:

> "Ideals are like the stars, we never reach them;
> But like mariners at sea we chart our course by them."

Medical Service

—*In Small Industrial Plants*—

FRANK T. MCCORMICK, M.D.,
Detroit

MODERN industry has become increasingly conscious of the health factor of employees. Aside from humanitarian considerations, statistics and economic data are not lacking to prove the wisdom of promoting industrial health and the prevention and care of injuries.

Obviously, the better organized the medical department of a plant and the more intimately coordinated its working units, the more efficient are the desired results. Large industrial plants have met this need by well-equipped medical services, staffed by doctors and nurses, to provide for all emergencies, medical and surgical.

This has been a logical growth from an original, simpler system. Even yet, the large majority of workers work in groups of less than 250, most of them in groups of less than 100. But no matter how small the industry, it is nevertheless under the jurisdiction of compensation laws, and, in order to keep a low rate of morbidity, should have a medical service commensurate with its needs.

It is for these smaller plants that employers and insurance carriers have had to select from the medical profession, physicians who, by training and convenient location, can best give satisfactory industrial service. As a rule small industries are not so much concerned with occupational diseases, as dermatoses and silicosis, but largely direct attention toward the care of surgical conditions resulting from accidents—fractures, lacerations, infections, and imbedded foreign bodies. The responsibility of the attending surgeon in such cases may be just as great as in larger plants, since an apparently simple case, by improper handling, may assume serious proportions. Hence the size

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of a plant where a man is injured is no criterion of possible dire results.

Royster says that the expression "minor surgery" should be deleted from our medical terminology, because any one accident is potentially serious and, as he puts it "the more 'minor' the surgeon, the more 'major' the operation will become before he is through with it."

The doctor who is not giving full time in the plant is often handicapped from lack of close contact with the factory he is delegated to serve. One element of this lack of close contact is the time required in getting a patient to his office.

According to Gilcreest, "In the United States alone, in a year 9,000,000 people are injured; 8,300,000 are temporarily disabled, 3,330,000 are permanently disabled, and 93,000 die from accidents. These figures are on the increase. Of the fatalities 34% are the result of motor-vehicle accidents, 33% of home accidents, 18% of occupational accidents, and 15% the result of public accidents of various sorts. Motor vehicle deaths have increased tremendously in the past 25 years while the number of *industrial fatalities* has been decreased by 50%." This last notation is somewhat comforting and can be considered a tribute to the better medical and surgical care provided in our industries.

Compensation laws, insurance companies, doctors, nurses, and safety engineers all share credit in this lowered mortality and morbidity. Further progress along these lines can be properly and definitely increased in proportion to the training and skill of the industrial physician and his administrative ability in improving the health and safety of the workmen under his care.

Physician

AT present this need for good medical service in smaller plants is being met in a fairly satisfactory manner. Insurance carriers and employers have sought out competent physicians whose offices are conveniently located. The doctor himself has seen the advantage of properly and efficiently meeting this demand of a new field of medicine; he has refreshed his knowledge of anatomy and the treatment of wounds and fractures; he has acquired at least a bowing acquaintance with the occupational diseases—and the dermatoses.

An educational program such as this being given here, directed toward the training of the doctor in industry, can add materially to his special medical knowledge. Post-graduate courses in industrial medicine, incorporating various phases such as plant administration, industrial hygiene, occupational diseases, and the surgery of traumatic conditions, are becoming more and more available. The field of industrial medicine has ceased to be a heterogeneous composite of various medical entities; it is rapidly developing into a definite specialty, bringing into action the leading medical and surgical men of the community.

The industrial surgeon who is not employed full-time in the plant must overcome this handicap by an endeavor to keep in close touch with the industry he seeks to serve, either by visits to the factory or by frequent communications with the management or both.

The majority of small plants are poorly provided with medical equipment for first-aid care. With few exceptions cases are sent to the doctor's office where they can be treated. It is essential, then, that during working hours the doctor should provide a continuity of skilled medical service where treatment can be given promptly and efficiently. Availability remains the doctor's outstanding qualification. It is most desirable for him to arrange his office so that several patients can be treated at one time, saving the annoyance of delay and waiting. Thus one room can be used for diathermy treatments, while others can be used for the treatment of surgical injuries, x-rays or physical examinations. The injured employee, as well as the employer, is quick to recognize this desire on the part of the doctor to render good service expeditiously.

Perhaps the greatest weakness of the medical service rendered by the doctor outside of the plant is the lack of coordination between the doctor and the employee. In reality many doctors' offices are no farther away, in time units, than a doctor serving full time in a large plant, but psychologically it seems much farther.

Nurse

IT is unfortunate that more of the smaller plants do not employ a nurse to direct the first-aid room and supervise the welfare and industrial health of the plant. It is somewhat regrettable that employers are not more conscious of the economic and financial savings to be made by retaining a medical attendant in the plant. There are very many health problems in industry, apart from cases covered by compensation, that require the attention of a skilled medical mind.

Absenteeism disrupts order and production; an efficient nurse who merits the confidence of the employees can do much to interpret and forestall absenteeism from sickness and accident—she can administer first-aid in cases of injury, and treat the minor ailments that beset every busy organization. A tactful and conscientious nurse will act in accordance with instructions of the plant physician and be a coordinator between the employee and the doctor.

The Visiting Nurses Association is seeking to meet this need by part-time nursing in industrial plants. The plan is to have a nurse spend one or two hours daily in the work place. Her time is occupied first of all in instructing someone in the plant in the principles of first-aid, and the preparation of a room for emergency treatment. She is otherwise variously engaged by such duties as the investigation of hygienic conditions, ventilation, foods, sickness, and other causes of absenteeism. Compensable cases are sent to the plant physician or cared for under his instruction. Non-compensable cases are referred to the patient's family doctor.

It seems that even part-time nursing is a step forward in the better medical organization of the

small plant. An intelligent nurse, even for a portion of the working hours, gives a sense of security to employees and increased confidence in the employer. In time, many of these plants will be encouraged to employ full-time nurses. So far as the plant doctor is concerned, this innovation should be welcomed. It imposes, of course, a great responsibility upon the nurse, as she should be most ethical in cooperating with the plant physician, be scrupulous in regarding the Medical Practices Act, and observe the same professional dignity in industry that nurses have always observed elsewhere.

The same adherence to professional ideals must be observed by the industrial physician himself. The ethics of the profession need not be encroached upon by the demands of business. An industrial physician is retained by the employer to preserve and repair the human machine which is the vital working part of industry; but this responsibility extends only so far as the employer is responsible under the compensation laws. The doctor must be business-like and ethical, efficient, and considerate of the rights of other members of his profession. He should be ever willing to call consultations in compensation cases when the need of special service or special skill is indicated, always putting the requirements of the patient first. All cases *not* under his jurisdiction should be referred to the family doctor.

Health, Hygiene and Nursing

—Abstracts of Presentations on Industrial Health; Dust, Fumes, Gases and Vapors; and Industrial Nursing, at the Thirtieth National Safety Congress and Exhibition, Chicago, October 6-10, 1941—

Reported by

C. O. SAPPINGTON, M.D., DR.P.H.

OF particular interest to professional and industrial personnel were the recent meetings of the Thirtieth National Safety Congress, in Chicago, October 6-10, 1941. There was one session on Industrial Health, one on Dusts, Fumes, Gases and Vapors, and three on Industrial Nursing subjects. The program of these sessions follows:

October 7: Industrial Health

DR. C. H. WATSON, Medical Director, American Telephone & Telegraph Co., New York City, and Past President, N. S. C., presiding:

"National Defense Brings An Improved Industrial Hygiene Program" — DR. C. D. SELBY, Medical Consultant, General Motors Corporation, Detroit.

"Effective Industrial Health Education"—DR. J. J. BRANDABUR, Asst. Supervising Surgeon, Chesapeake & Ohio Railway Co., Huntington, West Virginia.

"Essentials of Healthful Industrial Environment"—MYRON A. SNELL, Supervising Engineer, Hartford Accident & Indemnity Co., Hartford, Connecticut.

October 9: Dusts, Fumes, Gases and Vapors

WALTER S. PAINE, Manager, Engineering & Inspection Dept., The Aetna Casualty & Surety Co., Hartford, Connecticut, and Vice-President for Industrial Safety, N. S. C., presiding:

Methods of Combating Industrial Health Hazards: Symposium—

(a) "Ventilation and Exhaust Equipment"—GORDON C. HARROLD, Ph.D., Industrial Hygiene Laboratories, Chrysler Corporation, Detroit.

(b) "Measuring Concentrations of Toxic Substances"—S. W. GURNEY, Laboratory Director, Liberty Mutual Insurance Co., Boston.

(c) "Respiratory Protective Equipment"—DR. J. H. STERNER, Director, Laboratory of Industrial Medicine, Eastman Kodak Co.

General Round Table.

October 8: Industrial Nursing

DR. M. H. KRONENBERG, Chief, Division of Industrial Hygiene, Illinois Department of Public Health, Chicago, presiding:

"Employee Health Education" — MRS. D. IRENE BIGLER, Industrial Nurse Consultant, National Organization for Public Health Nursing, New York City.

"Community Resources of the Industrial Nurse"—DR. HENRY H. KESSLER, Medical Director, New Jersey Rehabilitation Clinic, Newark, N. J.

October 9: Luncheon

JOANNA M. JOHNSON, R. N., Supervisor, Industrial Nursing Division, Employers Mutuals, Wausau, Wisconsin, and Chairman, Industrial Nursing Section, N.O.P.H.N., presiding:

"The Nurse's Part in the Industrial Relations Program"—T. O. ARMSTRONG, Supervisor, Industrial Relations, Westinghouse Electric & Manufacturing Co., Springfield, Massachusetts.

October 9

MRS. CHRISTIAN SEABROOK, R.N., Local Field Supervisor, Metropolitan Life Insurance Co., Chicago, and President, Chicago Industrial Nurses Association, presiding:

"Dental Infections and the Industrial Worker"—ERNEST GOLDHORN, D.D.S., Pullman-Standard Car Manufacturing Co., Pullman, Chicago.

"Records to Keep and How to Use Them"—JOANNA M. JOHNSON, R.N., Supervisor, Industrial Nursing Division, Employers Mutuals, Wausau, Wisconsin and Chairman, Industrial Nursing Section, N.O.P.H.N.

"What the Nurse Can Do to Combat Absenteeism Caused by Illness and Injury"—DR. PAUL BREHM, Supervisor, Industrial Hygiene Division, Wisconsin State Board of Health, Madison, Wisconsin.

Industrial Health

DR. C. D. SELBY, presenting the subject "National Defense Brings an Improved Industrial Hygiene Program," stated that the world war program previously developed is proving adequate in the present emergency, with certain additions. In June, 1940, Surgeon-General Parran requested the Committee appointed by the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS to cooperate with other groups in national defense measures, some of which were mentioned as follows: (1) Development of joint approach; (2) selection of important industries for special study; (3) determination of present facilities in industry; (4) the development and training of a corps of industrial hygienists; (5) determination of methods for the rehabilitation of the handicapped; (6) the mobilization of laboratories; (7) preparation and dissemination of information on toxic substances; (8) investigation of problems of personnel; and (9) the promotion of the control of various diseases, such as syphilis, tuberculosis, and others.

In the development of this program, the Health and Medical Committee, together with its subcommittee, was transferred to the Office of Industrial Management on September 3, 1941. The U. S. Public Health Service has greatly broadened the work of the industrial hygiene units, 34 now being established. Many industrial groups have also established industrial hygiene services, and the

Army and the Navy, the largest employers of the civilian population, have also planned programs.

Small plants continue to be the problem, but the solution may be met through the cooperation of present agencies, among them the American Medical Association, National Safety Council, American College of Surgeons, National Association of Manufacturers, and the Chamber of Commerce of the United States.

There has been a most notable advance with reference to occupational diseases, reflected through research with reference to toxic substances. The National Research Council has recently appointed a Committee on Industrial Health.

Absenteeism presents the problem of ordinary sickness. The National Institute of Health has made a study of this problem, finding that 60% of all sickness is due to non-occupational maladies, that about 10% of employees are losing 40 days a year, and that about approximately one-third of the disease disability is due to respiratory diseases.

Tuberculosis causes but a small part of the loss in the industrial group, which is attributed to the work of the tuberculosis associations, but case-finding is still an important function of an industrial health service.

Syphilis is now being cut down in rate through the work of the U. S. Public Health Service.

As to immunization, with reference to respiratory diseases especially, it is believed that both vaccines and vitamins should not be indiscriminately given to industrial employees. Cases should be individualized and treated accordingly.

There is a special committee now working on research with reference to personnel relations and mental hygiene. It has been observed that a better sympathetic attitude is more and more observed by industrial physicians with reference to treatment of employees.

Standards of physical examinations are rapidly rising, but methods with reference to placement are not yet on a scientific basis. They are, however, steadily improving.

Women are gradually displacing men, which presents a problem. They must be carefully examined, for records have shown that they have a daily absence of 10% and usually exceed men in the total absenteeism rate by 200%.

In conclusion it was stated that the present program with reference to defense work will prove effective both in emergency and also in peace time.

DR. J. J. BRANDABUR presented the subject "Effective Industrial Health Education."

For several years safety measures meant only the consideration of faulty equipment. It is only recently that man-failure has been given the attention that it deserves. Quite recently also has the importance of the status of the environment and its effects on health been considered.

One of the first groups to recognize these points was the transportation industry; this industry was also one of the first to use pre-employment and periodic examinations.

The outstanding measure in safety is prevention. The medical department accepts the authority with reference to remedial measures, which include treatment and rehabilitation. Proper classification and placement is also a preventive measure.

As an example of an occupational disease, reference was made to the study of Thorn with reference to 300 cases of caisson disease. There is no immunity to this pathological phenomenon, so it is therefore important to know the physical status, age, weight and habits of the individuals concerned.

As an effective method in health education, it has been found that periodic examination acts as a check, especially regarding habits, and also gives an opportunity to inform employees as to what the condition is and what they may do. The method in this company (Chesapeake & Ohio) is to have examinations made by local physicians and surgeons and the reports sent to the headquarters for appraisal. If there are correctible defects, the individual is referred to his family physician, using a form letter to the employee with advice to report to the family physician and have the doctor report to the company.

The experience in checking up the physical defects shows that they occur in the following order in this company's experience: Defective vision; heart disease; abnormal blood pressure; hernia; potential diabetes; nephritis; color blindness; lues; defective hearing; tuberculosis; history of previous skull injury, and thyroid disorders. Most of these persons didn't know that they had anything wrong with themselves.

Periodic physical examinations contribute two elements to the program: (1) Revealing an occupational disease or condition which is injurious to the employee or the public; and (2) providing an opportunity for early treatment and also control of the hazard.

Especial reference was made to a recent article on "Acute Exposure to Toxic Chemicals," by DRS. FOULGER and FLEMING, published in *J.A.M.A.*, September 6, 1941.

Examination of executives is particularly important and is beneficial in (1) prolonging life and promoting efficiency of the men who are hard to replace; and (2) setting a psychological example for the examination of other persons in the same company.

It is believed that the doctor must maintain confidential relationships with respect to the results of these examinations. Detection of chronic illness is usual, but it is difficult to uncover potentially acute or emergency types of illness.

Although it is difficult to evaluate a program of health education, it is thought in this group that there has been a definite improvement in the health of the employees. For example, there has been a reduction of the incidence of physical defects during the five-year period of 1934-1938 based on experience with 2200 men.

In conclusion, it is believed that effective health education can be best attained through the medium of pre-employment and periodic physical examinations, followed up by the family physician or some responsible medical organization.

MR. MYRON A. SNELL concluded the session on Industrial Health, presenting the subject "Essentials of Healthful Industrial Environment."

The National Safety Council statistics of 1940 show among other things that accidents cost $750,000,000—which relates only to direct losses. Only a small part of industrial losses is due to occupational diseases; however, one must not forget that the life expectancy of workers is eight years less in industry than in the general population.

Metropolitan Life has shown that 2% of persons are incapacitated at all times. There are staggering losses due to nonoccupational disabilities, costing both employer and worker much time and money. However, these may be greatly reduced as the figures from the National Association of Manufacturers show: Reduction of accidents 44.9%; reduction of occupational diseases 62.8%; reduction of labor turnover 27.3%; reduction of absenteeism 29.7%; and reduction in insurance premiums 28.8%. Reduction of losses mentioned is due to installation of adequate types of health and safety services.

The employer cannot be expected to provide a general health insurance scheme, but he is required by law to provide a safe and healthful place to work. This involves all factors relating to health and morale.

A general discussion of air contaminants was given, including a consideration of dusts, fumes, smokes, vapors, and gases. The American Standards Association's standards were mentioned and also a code which was published in *J. Ind. Hyg. & Tox.*, June, 1940. Other standards were also discussed. Inhalation is by far the most important mode of entrance to the body, but the skin contact is more frequent in industry, leading to dermatitis which is one of the most frequent types of occupational diseases.

Protective procedures were described and discussion was also given of the following subjects: Radiant energy; mechanical factors; physical factors in air; noise; odors; illumination; posture; sanitation and housekeeping; and medical service.

Health is one of the most important assets to the industrial worker. Without health, there can be no energy; without energy there can be no output; without output there can be no national security.

Dusts, Fumes, Gases and Vapors

DR. GORDON C. HARROLD spoke on "Ventilation and Exhaust Equipment."

One important aspect of practical exhaust problems is the consideration of the specific gravity of gases. This will determine whether a down-draught or up-draught is advisable. However, sometimes there may be deceptive factors—for instance, carbon monoxide is lighter than air, but when mixed with exhaust gas becomes heavier than air.

Lantern slides were used to illustrate various types of installations of exhaust systems, particularly with reference to welding of large objects, also applicable to ventilating of furnaces for heating soldering irons, in brake finishing operations, and others.

Particular attention was given in this presentation to magnesium fires, which are very difficult to handle. Using water on such fires produces tremendous explosions, and great damage. It was especially pointed out that for magnesium and aluminum dust exhaust systems, provision must be made for wetting the particulate matter, and it must finally be carried off as a sludge rather than exhausted in the usual manner of exhausting particulate compounds.

MR. S. W. GURNEY discussed "Measuring Concentrations of Toxic Substances."

The recent interest in industrial health has stimulated our already well-developed desire for precise information. Although it would be desirable to have a trained industrial hygienist in every plant, there are limitations which make it necessary for us to use available untrained personnel.

It is, of course, widely accepted that most toxic substances enter the body by the respiratory route. Low concentrations are for the most part well borne. High concentrations, on the other hand, produce difficulty. The maximum allowable concentrations for various substances are being revised and studied by the American Standards Association.

Various types of instruments of precision are now available and some of these can be used by untrained persons without any difficulty. Much can be done, however, by visual inspection and in many instances it is possible to get a great deal more information than is ordinarily supposed by this method. Where there is a visible amount of dust and where acid vapors can be visualized one certainly suspects difficulty.

Another method which is not ordinarily used is the identification of odors by the nose. There are many substances which are easily identifiable after a little practice.

Two other methods are advised: Considering the complaints of the workers themselves and also exposing one's self as the worker does in order to get a good idea of the kind and extent of exposure involved.

It is by these methods that one can get a great deal of information without resorting to instruments of precision and without the necessity of having trained industrial hygienists. There is of course, no substitute for precise and scientific information, but where that is not obtainable and cannot be provided without considerable expense and difficulty, much can be learned without it.

DR. J. H. STERNER discussed "Respiratory Protective Equipment."

The problem of selection of protective equipment for the respiratory system is not usually an easy one. It should be remembered that the respirator is always a compromise and places some restriction on the wearer.

Schrenk has classified respirators rather simply in two classes: (1) Air-purifying types and (2) air-supplied types. There are all kinds of variations in head pieces and face pieces, as well as canisters, cartridges and other accessories.

Emphasis was placed upon preferring U. S. Bureau of Mines approved respirators. It is acknowledged, however, that there are unapproved varieties which are useful in certain situations.

It is essential to know the exact nature and form of the air contamination, the concentrations of the contaminants, and the duration of such concentrations, before one can intelligently deal with respiratory protective equipment problems.

In the use of absorbents, there is a considerable number available, and there is no universally used substance.

The conditions of work in the industrial environment also determine the selection of the kind of respirator which should be used. Protection should come first and comfort second.

Lantern slides were used to illustrate the various types of respirators, showing one which had been provided with a cartridge which was added to the usual airline construction. This affords an added protective element if a break occurs in the airline, or if, on account of job requirements, the man needs to detach himself from the airline.

A short discussion was given on the cleaning and repairing of respirators, with special emphasis being placed on the necessity of putting the responsibility on some reliable person.

It was concluded that there are many factors to be considered in the selection of respiratory protective equipment.

Industrial Nursing

MRS. D. IRENE BIGLER, in discussing "Employee Health Education," stated that this was indeed a big field and that she was giving only limited treatment in the time allotted.

Workers are misinformed many times and obviously should be told what is right, rather than be placed in ambiguous and doubtful situations.

Changes are needed in educational methods as industrial changes occur. Employees should be told what is being attempted and why it is being attempted. It should be explained to the worker what absenteeism means to him.

No blanket plan can be offered. Supervisors should understand what health means relative to production, efficiency and morale. Foremen should understand what health means to the record of production in the department.

Medical records should be confidential and should be associated with the information relative to the types of materials to be used before applied to manufacturing processes.

The use of safety equipment is only best accomplished when the reasons for the use are understood by the men themselves.

It is the duty of the M.D. to make the diagnosis and of the engineer to prevent or control injurious exposures.

The best start for any program of health education is the physical examination, which should not be used to weed out workers, but to place them. It is said on good authority that an average of less than 5% of workers are rejected in our whole industrial population.

Another important point is that the workers should understand and the doctor himself should understand that he is there for their benefit. Better health facilities can be developed as opportunity for the correction of defects presents itself.

Recreation, posture, nutrition were mentioned as examples of applied health education, the necessity being shown for knowing the cause, control and principles of the promotion of these factors.

Information should be given to the worker with respect to milk supply, booze and superstition, venereal disease (particularly about local laws), sanitary facilities, and noise. There are many other subjects, but these are well known examples.

In conclusion, it was stated that the well known element of successful advertising becomes almost the backbone of an industrial health program—constant repetition.

DR. HENRY KESSLER presented the subject "Community Resources of the Industrial Nurse."

The shibboleths of industry 30 years ago have now been changed by social improvements and legislation.

Description of German and Russian methods were given, with the added statement that we can accomplish the same results and use the same methods in this country without giving up our freedom, by the use of community resources.

As an example of this, reference was made to the Brewster Aeronautical Company providing a transfusion service which is available not only to industrial workers, but also to individuals in the community.

A very excellent motion picture on rehabilitation methods was exhibited and explained.

Finally, it was stated that the object of health was to make health superfluous.

Discussions of the previous presentations were given by DR. GEORGE TAYLOR, who talked briefly about the venereal disease program of the Chicago City Health Department; MISS MARION WESTPHAL, who spoke on what the V. N. A. can do for industry; and MISS META BEAN, concerning the work of the Milwaukee Tuberculosis Association.

MR. T. O. ARMSTRONG was the luncheon speaker, presenting the subject "The Nurse's Part in the Industrial Relations Program."

Industrial nursing was a field which was formerly overcrowded, but which now is constantly demanding new recruits. The story of the industrial nurse needs more publicity and should be gotten across more frequently and more widely.

It is necessary to define or describe industrial relations. Industrial relations constitutes the feelings centered in the moods, desires, faults and virtues of the personnel of an industrial organization. The director of industrial relations should think of himself as an auditor of human relationships.

There is a great deal more involved than the mere wages and hours. It is necessary for us to learn, even now, a lot more about the basis for production.

The nurse is the most important part of the industrial relations program, the first stage of production, if you please. When a new employee comes to the company, he should be started right by introducing him to the policies of the company and explain to him what "it is all about."

There are certain examples of persons who present problems, such as the (1) fellow who has formed certain habits which are a hindrance to himself and those around him; (2) those who fear that they are incapable; (3) those who have lack of knowledge or information on various policies; (4) those who have a wrong attitude because of wrong information; and (5) the extremist.

Good industrial relations then, is everyone's job and the nurse should be an industrial relations nurse.

DR. ERNEST GOLDHORN spoke on "Dental Infections and the Industrial Worker."

Although great strides have been made in man conservation during the past decade, absenteeism reflects only a part of the losses sustained. For the most part in industrial organizations, dentistry has been overlooked.

Oral infection, however, is really a major problem and presents two phases: (1) Infection in the tooth itself which may progress through the root canal into the end of the root, forming an abscess and finally resulting in bone infection; and (2) infection in the gum tissue.

There are many conditions which may be a sequel to or associated with dental infection. Of these are respiratory infections, the rheumatic group (consisting of arthritis, myositis and others); gastro-intestinal trouble; heart disease; nervous phenomena, and eye and ear disorders.

In some instances, dental infection is so widespread that it is impossible to secure desired results without extracting many of the teeth. This is of course because of the well-known fear of persons about going to a dentist regularly.

A national dental health program is really needed and should be a cooperative undertaking, in industrial organizations.

MISS JOANNA M. JOHNSON discussed "Records to Keep and How to Use Them."

Records are valuable in different types of human effort—witness the blue ribbon winners at the stock-show—batting records of baseball players in the major leagues—and the habit of finger-printing people for adequate identification.

And so it is that the industrial manager is now realizing the importance of records in his work. They present a sound basis for anaylsis, for the recording of complaints, and also for providing proper information in compliance with compensation laws.

A number of items which should be found on physical examination records were mentioned, especially temperature and previous occupations, which are very often omitted.

Correction of defects among industrial employees is a very important arm of the health program, and records play an important part here.

Tuberculosis is still a problem in certain groups, and records also come to the front in this work, particularly examination and x-ray records.

Finally, records can be a means of control of needless waste.

DR. PAUL BREHM completed the industrial nursing meetings, presenting the subject "What the Nurse Can Do to Combat Absenteeism Caused by Illness and Injury."

One is tremendously impressed by the great increase in injuries within the past year. For instance, in Wisconsin there was a 54% increase in the incidence of injuries, based, however, on only a 30% increase in employment.

In 1940 there were 12 times as many sicknesses as accidents; there were five and a half times as many days lost on account of sickness as previously recorded; females showed a record of losing twice as many days as males; half of the difficulties were due to respiratory diseases; based on an experience of 500,000 workers the time lost in one year in this state was equal to the shutting down of a plant of 7500 men for a period of a year (illness loss being equivalent to the shutting down of a plant of 5500 men for a year and the wage loss equalling six and a half million dollars).

Lanza believes that the loss to management is equal to the loss sustained by workers.

The increase in accidents and illness in industry is due to two things—the increase in employment (but this increase is not proportionate), and the need for an increasing number of unskilled workers for skilled work. There are also other factors, such as lack of proper supervision, increased production at an increased pace, fatigue, overtime, and the crowding of both equipment and men. Nervous and mental strain should also be mentioned.

There are certain things that the nurse can do specifically to prevent accidents: (1) Present efforts will have to be multiplied in order to secure the same results as formerly; (2) there should be increased facilities for first aid with adequate medical supervision, clearly defined standards and policies, without red tape and bickering; (3) there should be an efficient record system; (4) the nurse should be an important member of the safety and health committee; and (5) progress can be attained through proper salesmanship.

Then, too, the nurse can assist greatly in improving the working environment by regular inspections and recommendations. A big job is the prevention of illness where all factors in the production of illness have to be considered; any intelligent program must be based on adequate absenteeism records showing the facts.

The educational program should be simple and sensible authoritative facts through the medium of (1) regular health meetings once a month on company time; (2) health posters prominently posted and changed frequently; (3) pay envelope inserts; (4) signs and slogans; (5) the ferreting out of unfavorable environmental influences by the nurse; (6) periodic tests of the drinking water; (7)

milk supply testing; (8) investigation of high illness frequencies among certain persons; (9) the diplomatic investigation of personal habits; (10) a good dental hygiene program; (11) cooperative relationships actively kept up with state and community agencies; and (12) the encouragement of the worker to consult his family physician rather than to resort to self-diagnosis.

It can thus be seen that the program of combating absenteeism caused by illness in industry is a great job for the industrial nurse.

What the Nurse Should Know About Industrial Health Hazards*

EMERY R. HAYHURST, M. D., Ph. D.,
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WITHIN the time of my own experience the female nurse has appeared in American industrial plants. The day was when the strawboss or timekeeper, acting as a first-aid man, came the nearest to being a nurse. I recall that in 1900, when the American Can Company was created by combining a number of plants, it was rather frequently my job as a timekeeper in the tinning plant at Maywood, Illinois, to administer a well known old remedy, "witch hazel," for practically everything from cuts, burns and bruises to stomach ache, headache, or "whatever have you." It was kept in a keg on a stool in the corner, ever-ready for instant use. At least its odor was a pleasant one, though it was not very efficacious as a remedy.

The primary object of controlling industrial health hazards is the prevention of occupational diseases, both those which are specific and those which are partly so. An *industrial health hazard* is any condition or manner of work which is unnatural to the physiology of the human being so engaged.[1] The distinction between an industrial injury and a health-hazard injury is often difficult, as in gassing mishaps, and is a legal matter with various interpretations in the different states and countries. One's physiology is adaptable through gradual tolerance to quite wide variations in environment and experience, but the rule holds good that subjection to conditions which are unnatural to the physiology, including the adaptability of man, results in pathology or disease. There is a threshold of well being which varies rather remarkably between individuals and in the same individuals from time to time. Thus, we travel a road way of varying widths, and may swerve from side to side and still keep within the threatening borders of soft shoulders on either side, but once over the edge, disaster may result.

Occupational Diseases

AN occupational disease is any affliction which is the result of exposure to an industrial hazard. There are four general types:

1. SPECIFIC OCCUPATIONAL DISEASES. These are afflictions which rarely, if ever, occur outside of industry itself. Specific occupational diseases are, as a rule, rather rare, although some 1500-1800 are officially reported in Ohio annually. Their average duration is much longer than in the case of accidents, and their fatality rate is high. In certain industries, e. g., involving lead, silica dust, and various poisons, they may have a fairly high incidence. Where exposure is severe or continuous, they may inaugurate other afflictions leading to chronic illness and shortening of life. It must not be forgotten, also, that other afflictions such as tenosynovitis, "machinists' boils," anthrax, cataract and nystagmus, "boilermakers' deafness," compressed air illness, and "altitude sickness" may be specifically occupational.

2. DISEASES PARTLY OCCUPATIONAL. These are afflictions where the fundamental hazards commonly exist elsewhere than in the work itself, such as in hereditary predisposition, constitutional inferiority, bad living conditions, faulty personal hygiene, allergy (asthmatic, skin, etc.), and diseases already present. In fact, many diseases are occupational only to the extent that the job may aggravate or reactivate a condition already present, e. g., the effects of lead, benzol, chronic gasoline exposure, etc., upon pyorrhea, anemia, or nervous conditions.

3. OCCUPATIONAL HEALTH COMPLAINTS. Health complaints commonly occur before diseases manifest themselves, as well as afterwards. Their number and forms in industry may include nearly the whole medical gamut—headache, insomnia, dyspepsia, constipation, pains, numbness, cramps, weakness, stiffness, itching or burning, colds, coughs, etc. Hence, early health complaints are the "red flags" of oncoming disease which may be of industrial nature in the case of workers. Therefore the closest attention should be given to them and every possible industrial hazard which might produce them should be eliminated forthwith.

4. CONDITIONS NEITHER DISEASES NOR COMPLAINTS. Here we would put postural defects such as round shoulders, flat feet, and so-called benign spinal curvature. We might also add the effects of faulty work-habits which waste energy—constant nodding of the head or swaying of the body in rhythm with motion of the hands or machinery or noises, etc.

Industrial Health Hazards

HAVING noted the classes of occupational diseases, we may now turn to the industrial health hazards which produce them. As a matter of fact, these are not very numerous in kind, and they can be easily grouped as below (I purposely omit working in compressed or rarefied air):

1. UNSANITARY CONDITIONS, DISORDER, OR DIRT. Toilets, washing facilities, showers, drinking water, lack of "clean-up," refuse depositories, clothing lockers, dressing rooms, eating quarters, and the like. Correction must generally be referred to the plumber, engineer, janitor, architect or room planner, foreman, traditional low standards, ignorance of workers themselves, and failure to instruct them properly and to insist upon proper standards.

2. DUST. Here the type and amount of exposure are of chief concern. The maximum thresholds for inhalation, at least, are now fairly well known for most dangerous dusts, e. g., silica. We are also interested in the effects of dust upon the skin, and possibly the eyes and ear canals. Is the dust really inert, or is it an irritant of crystalline, hydroscopic or chemical character? May it produce allergy? Has it accumulative effects? For its control, we must know its source as well as its nature, and refer it to the proper officials for control. Occasionally gloves or specific ointments may be called for. Respirators may be the only answer, and the nurse has a special function in constantly warning employees to use these protective devices where needed. The modern respirator has been so perfected that its weight and its obstruction to breathing are negligible.

3. ILLUMINATION (DARKNESS). Abnormal spectral conditions vary from beyond the red end of the spectrum, through the whole field of visible light, to the ultra-violet, and even beyond (in the case of x-rays and radium). From the red end come temperature effects, scorching or blistering. In the visual range come glare or dimness—both leading to eyestrain. Occasionally, arcing from electric currents produces the exceedingly painful condition of electrica ophthalmia. Sometimes color dispersion itself is a hazard. From the violet end come tanning or bronzing, and from the very shortest rays, like the x-rays and radium, come "burns," sterility, and epithelioma. While electricity is the usual source of light in modern procedures, acetylene, gas, oil, and perhaps simply the bright glare from the process itself (as from molten metals) may be depended upon and oftentimes with prospects of hazards. Flicker-

*Given by DR. HAYHURST at the Symposium on Industrial Nursing, Institute of Section on Public Health Nursing, Ohio State Nurses' Association, Columbus, Ohio, Nov. 16, 1940. Published in *Ohio Nurses Review*, January, 1941.

ing or other unsteady light source soon becomes a cause of eye fatigue. Outside of ordinary measure for control come goggles, masks, and screens. Much of the effect of ordinary glare can be defeated by the more prevalent use of forehead visors. The idea is simply to eliminate from the field of direct vision a large part of intruding peripheral illumination which is not necessary to the job, and which puts one set of delicate pupillary muscles (the sphincters) against another set (the dilators).

4. HUMIDITY (DAMPNESS). Dismissing water, steam, and watery mists from which workers are presumed to be ordinarily protected, there arises the question of damp quarters, especially where sedentary workers are concerned. It is remarkable how easily a panel of wall-boarding may check dampness in the lower reaches of walls, even in basements, by simply reducing the condensation of moisture in and upon them. In contrast, extreme dryness (aridity) is very seldom a hazard, as witness the health of those who live in our arid Southwestern States. But high humidity appears detrimental to health whether associated with heat or cold, and the more so where sedentary work prevails.

5. VENTILATION (DEVITALIZING AIR CONDITIONS). For ventilation in general, a Sectional Committee of the American Public Health Association,[3] composed of physicians and engineers, has agreed for some years upon principles for the maintenance of comfort, health and efficiency in atmospheric and space environments (assuming altitudes under 10,000 feet), as follows:

1. Cool rather than hot—but avoiding a sense of chilliness.
2. Dry rather than damp.
3. Still or moving, depending upon physical activity.
4. Some diversity in temperature—time and space—rather than uniformity and monotony.
5. Foot level as warm as head level.
6. Radiant, i. e., local heat source, as an item in heating, preferred.
7. Shockless temperature differences between air-conditioned quarters and outer air, depending upon the length of stay indoors, i. e., less differences for brief stays.
8. Essentially noiseless air-conditioning apparatus.
9. Expert attention to square footage and cubic footage per person (as specified), otherwise expert attention to frequency of air changes.
10. Reduction of obnoxious dust, bacteria, fumes, vapors, and gases to their sub-danger thresholds (now pretty well standardized or capable of determination).
11. Satisfactory primary sense impression upon entering the room or space.
12. Maintenance of comfortable conditions during occupancy (room comfort impression).
13. Sufficient replacement of "foul air" with "fresh air" to meet odor-comfort requirements, and entrainment or filtering out of objectionable industrial odors.
14. Ultra-violet or actinic-ray effects on air of occupied space—awaiting further consideration.
15. Intelligent supervision.

6. HEAT. This refers to excessive heat as a process exposure, where the effects may be thermic fever (of several degrees), heat cramps, heat stroke, or heat collapse. Let the nurse use the clinical thermometer on all heat exposed workers who apply at the first aid room for any cause. In addition to engineering protection, other questions of control include proper rest intervals, adequate drinking water facilities, showers, change-rooms, clothing (and drying facilities for same), short hours, salty foods, and the dispensing of salt tablets.

7. COLD. Here, excessive cold as a work-hazard is the theme. The effects may be general chilling, or colds, bronchitis, pneumonia, kidney disease, etc. Personal protection naturally considers proper clothing but there is also the question of proper foods. Could there be more activity on the job? Statistics show that in the temperate zone, at least, weather exposure is associated with a high rate of respiratory diseases. The most inimical condition is alternate exposure to heat and cold, where the greatest resourcefulness often fails. Keep the head covered. The use of a respirator to retain heat in the upper respiratory passageways is also suggested.

8. FATIGUE. The first question to determine is whether fatigue is psychological and founded on worry, distraction, newness to the job, having to make multiple decisions, monotony, or other ulterior factors competing for one's daily energy, or whether it is physiological, in which case it may be based on causes within the individual (intrinsic) or causes associated with the work requirements (extrinsic). It has been theorized that if the psychological and the intrinsic causes of fatigue can be overcome it is difficult indeed to fatigue the human body through extrinsic causes. Are diet, recreation, and sleep correct? Of course, the nature of the work itself may cause fatigue, such as laborious work in relation to the size, sex, or age of the individual; long hours or added overtime; prolonged piece work; speeding-up beyond the adaptation limit; constant standing, especially on hard floors; improper seats; prolonged strain; faulty postures; jarring processes; eye-strain; noise, etc. Some years ago a group of English investigators showed that the ideal work-day was one in which the best production was toward the end of the day and the best day in the week was Friday (the last full day). No doubt, the ideal is to regulate the job's requirements, and recreational necessities, so that there need be no fatigue and one may quit the work-day as fresh as when he began, needing only the next meal to square him away. Probably the biggest problem is to learn the secret of making the day the unit of life rather than the week, in order to catch up on rest and sleep.

9. INACTIVITY is often referred to as a hazard, but it is a question whether it is not only "a state of mind." Sedentary work, limitation of movements, and mental concentration may occur as unavoidable job necessities, but I am sure a little study will show that various shifts in positions or movements may readily overcome so-called "inactivity."

10. INFECTION. Only rarely, as in the case of hospital workers, laboratory workers, or hide and fur handlers and a few other occupations, is the nature of the work itself an intrinsic infectious hazard. By far and away, physical examinations have disclosed that the given worker is tuberculous or suffers from venereal or other communicable diseases. There are, of course, many jobs in which there is short-intervalled handling of objects between workers, perhaps mouthing of articles, or spread of infection through oils and cutting compounds. Are common towels and common cups permitted? Vacuum cleaning may well replace other methods, especially dry sweeping. Of first importance is intelligent first-aid provisions. One large automobile company found that individual linen towels, dry-cleaned daily, and freely supplied, appeared the chief factor in stopping a persistent siege of "machinists' boils."

11. POISONS. A poison is any substance, which, by its chemical action in the tissues of the body, produces marked functional disturbance or destructive tissue changes. The layman's concept also includes skin irritants as well as allergic substances and even obnoxious odors which make him sick. In a given process, it is necessary to know the name and form of every substance which may be inhaled, absorbed or ingested in order to fortify against possible poisoning. When it is known that a poison is used, the question is, "What is the amount of risk?"—since we can no more dispose of the use of poisons than we can the use of fuel gas or gasoline. Here and there, however, a non-poisonous or less poisonous substance can be used. The nurse can find out whether the worker is ignorant, or indifferent and disregards instructions. New substances and substances with fancy names should be inquired into. There arises naturally the question of eating at work, or in the workroom. Does medical supervision extend to the process itself? Are periodic examinations followed? Should personal protection, such as respirators, supplied-air masks, or special types of clothing be used?

12. STIMULANTISM. The nurse should satisfy herself regarding the use of alcohol and especially the desire for all forms of stimulants. I have found that some trades have a tradition that one must be "half drunk" all the time to withstand the hazard

of the trade, and that such tradition has come down through the ages, as in the smelting and founding of certain metals like brass and bronze. Of course, such has no foundation in the prevention of poisoning. On the other hand, the nurse might inquire whether thirst is really properly provided for at the workplace and whether certain workers are using stimulants in place of food—even too much coffee or "coke." There are many other angles to this subject of "stimulantism" for which time is too limited.

In summary, then, the industrial health hazards, to invoke "apt alliteration's artful aid," are: Dirt, dust, darkness, dampness, devitalizing air, heat, cold, fatigue, inactivity, infections, poisons, and the relations to stimulantism. All may contribute to chronic degenerative diseases.

References:

1. See the author's article on *Occupational Diseases* in Fisher and Emerson's *How to Live*, 20th Edition, 1938, Funk & Wagnalls, New York.
2. A. P. H. A. Year Books. These accompany the annual February issues of the *American Journal of Public Health*.

The Nurse in Industry

—*Functions and Qualifications*—

Prepared by the Executive Committee of the Industrial Nursing Section of the N.O.P.H.N. Published in *Public Health Nursing*, October, 1938.

FIRST aid care to sick and injured employees given under immediate medical direction or under standing orders signed by the responsible physician, occupies a major portion of the time of most industrial nurses. In connection with this, however, they also help to prevent illness and accidents and to promote the health and safety of the workers. Thus they share in all of the public health services of the industry.

In so far as the physical and mental health of the worker is a definite factor in his productivity and adjustment to the plant environment, and to good will in industry, the nursing service is also closely allied with the general program of industrial relations.

Functions

IN some plants the services of the nurse are rather specialized in nature, confined to the practice of medical and surgical techniques in the plant dispensary. Even under these conditions the alert nurse may become aware of the general industrial environment and the health problems of workers; she will find opportunities to teach safety and health; and she can suggest resources for helping the worker meet his problems.

Usually, however, the nurse combines other activities with first aid. These various activities include visits to homes of employees, and participation in administration of the safety program, workmen's compensation, the mutual benefit association, the plant lunchroom, and employee recreation.

Not all of the duties outlined in the following list could be performed by any one nurse but all of them are performed by industrial nurses today.

DUTIES WITHIN THE PLANT:

1. First aid and subsequent nursing care under direction of a physician.
2. Assistance to the physician in conducting physical examinations.
3. Advice and assistance to employees in securing correction of physical defects and social maladjustments.
4. Health education of the individual and groups of employees.
5. Integration of service with the industrial relations program by:
   (a) Explaining the program of the safety department to the employees.
   (b) Assisting the safety department to determine basic causes of accidents, where the physical or mental condition of employee is a factor.
   (c) Interpreting the plant sanitation program to the employees.
   (d) Giving consultant service to the manager of the lunchroom.
   (e) Assisting in developing recreational facilities.
6. Record keeping.

DUTIES OUTSIDE THE PLANT:

1. Provision of health and social service for the employee and his family in the home.

In so far as possible this service should be provided through cooperation with the family physician and utilization of community health and social agencies, including the local public health nursing organization.

It may be necessary for industrial nurses to offer some home services when they cannot be provided otherwise. Actual nursing should be curtailed sufficiently so that there may be time for educational work. A suitable person in the home should be taught to give nursing care.

Home visits to the sick or injured worker help him to feel that he is an integral part of the organization. If it is possible for the foreman or other representatives of management and employees to share in home visits, their interest helps in promoting a healthful attitude on the part of the sick or injured employees toward their work.

In planning nursing service outside the plant it must be remembered that the plant itself should be covered by a responsible person at all times.

2. Cooperation with the local health department in the control of disease by extending the program of the community to the worker in the plant.
3. Cooperation with community health agencies concerned with specific health programs, such as tuberculosis, cancer, heart disease, and social and mental hygiene, in so far as the medical director and management are willing to extend this service to the employees.

Usually the industry administers its own health service and employs its nursing personnel. Industrial nursing service, however, may also be provided by any one of a number of agencies. Among them are mutual benefit associations, tuberculosis associations, visiting nurse associations, and other public health agencies.

More emphasis in industrial health programs should be laid on the development of a close relationship with all official and nonofficial social and health activities within the community.

It is desirable that more industries should develop an adequate nursing service. To promote this, encouragement should be given to state departments of health to provide consultant nursing service for industrial nurses. Local public health nursing associations should consider the possibility of extending their services on a contract basis to plants too small to employ a full-time industrial nurse.

Qualifications

THE functions of the nurse in industry have been outlined by the Executive Committee of the Industrial Nursing Section of the National Organization for Public Health Nursing. This Committee and the Education Committee of the N.O.P.H.N. have formulated qualifications for nurses in industry. These qualifications were accepted by the N.O.P.H.N. Board of Directors on January 25, 1939, and by the Committee on Professional Education of the American Public Health Association on April 25, 1939.

PERSONAL QUALIFICATIONS:

The following personal qualifications are of the utmost important for the nurse in industry: An interest in and ability to work with all kinds of people; good physical health and emotional stability; initiative; good judgment; resourcefulness. For the nurse working alone without nursing supervision, ability to organize her service is also necessary. The supervisor of other nurses must have qualities of leadership, executive and teaching ability, vision, and imagination.

(An idea of the nurse's personal qualifications may be obtained by personal interview and by reading her record from the nursing school and from previous employers.)

PROFESSIONAL QUALIFICATIONS:

I. For the nurse in an industry which provides supervision by a qualified nurse supervisor (qualification set forth under III below):

(A) High-school graduation or its educational equivalent is essential. More advanced education on a college level is desirable. Ability to use the typewriter and perform other clerical procedures is helpful to the nurse, especially in smaller industries where clerical assistance is limited.

(B) Fundamental nursing education.

The following are essential:

1. Graduation from a school of nursing accredited by the state board of nurse examiners and connected with a hospital having a daily average of 100 patients, or a minimum of 50 patients with one or more affiliations affording supplementary preparation.

(a) Instruction and experience in the care of men, women, and children,

including patients with communicable disease.

(b) Thorough instruction and experience in surgical nursing, including operating room and first aid.

Instruction and experience are desirable in the following:

1. Outpatient department, especially in the emergency room.
2. Psychiatric nursing.

(C) State registration.

II. For the nurse in an industry working without the guidance of a nursing supervisor: This nurse should be able to plan the nursing program under the general direction of the medical officer and should have a working knowledge of the principles of teaching, social case work, community organization and resources, public health administration, industrial relations, personnel administration, industrial hazards, nutrition, communicable disease, mental hygiene, and personal hygiene, as they affect the individual and his family.

(A) All of the preparation listed above under I and in addition:

1. At least one year of experience under qualified nursing supervision in a public health nursing service in which practice in the application of the above can be secured.
2. An academic year of study in public health nursing in one of the colleges or universities whose program is approved by N.O.P.H.N.

(a) Where courses in industrial hygiene and safety are available.

(b) Where courses in principles of public health nursing, mental hygiene, social work, preventive medicine, and allied subjects are made applicable to nursing in industry.

(c) Where field work includes some experience in industry.

3. Supplementary experience and instruction in operating-room and first-aid nursing, if thorough preparation was not included in the basic nursing education period.

III. For the nurse in a supervisory position: All the preparation under I and II, and in addition: Successful experience in industrial nursing, part of which is preferably in the type of industrial work in which the nurse is to act as supervisor.

The Industrial Nurse
—in England—

THE duties and responsibilities of the industrial nurse in England as outlined in the *Nursing Times* for April 26, 1941, are reprinted here.*

The position of the industrial nurse is comparatively new and therefore the following suggestions of the duties and responsibilities of the industrial nurse have been drawn up by a subcommittee of the Public Health Section of the Royal College of Nursing[1] and approved by Council for the guidance of nurses who are entering factories. These duties must be interpreted according to the amount of medical supervision under which the nurse is working. It will be appreciated that where a full-time medical officer is employed many of these responsibilities will rightly be his.

1. To be responsible for the general efficiency of the ambulance room[2] and of any other first-aid arrangements in the factory; and to assist as may be desired in the supplementary training of any first-aid personnel.

2. To acquire knowledge of the nature and hazards of the processes in the various parts of the factory.

3. To undertake first-aid treatment of injury or sickness in the factory and such subsequent treatment as may be ordered by the patient's medical attendant and which can be adequately carried out at the ambulance room.

4. To assist the medical officer or examining surgeon in the medical examination of: (a) applicants and young persons; (b) employees returning after illness; (c) employees exposed to industrial disease; (d) other employees as the need arises.

5. To see all workers before they are sent home on account of injury or ill health.

6. To see and advise all workers returning after absence due to sickness or injury.

7. To maintain contact with absentee, sick, or injured workers by home visiting and when required, to notify the local district nursing association.

8. To deal confidentially with individual problems of personal hygiene referred to her.

9. To promote the education of the workers collectively and individually in matters of general and personal hygiene.

10. To keep adequate and suitable records of all cases of injury or sickness receiving attention at the ambulance room or in other parts of the factory.

11. To keep suitable and confidential records of physical condition on engagement, and subsequent medical history.

12. To receive daily from the appropriate department notification of absences due to sickness or injury.

13. To cooperate with the firm's statistical department in the compiling of sickness and accident statistics and to prepare them herself where no such department exists.

14. To cooperate with the labor manager or welfare department: (a) in the selection of applicants for employment from the point of view of health; (b) regarding pending dismissal for other than disciplinary reasons.

15. To cooperate with any existing welfare department and other executives in all matters relating to the health of the workers.

16. To make recommendations to the canteen management as to the possibility of obtaining for an employee any special diet medically advised.

17. To cooperate with the safety committee and to advise as to the use and care of protective clothing.

18. To advise as to the allocation of thrift or benevolent funds in relation to health matters.

19. To cooperate with outside health and other social services for the benefit of the workers.

20. To present to the management at regular intervals a suitable report and summary of the work done.

*In *Public Health Nursing*, July, 1941.

1. A professional nursing organization in England.

2. First-aid room.

OUR MUTUAL AIMS

If you have an opportunity to offer a well trained Physician, Nurse, or Technician in your industrial program your aim is to contact the individual who is best qualified for the appointment available, both from a professional and personal standpoint. Among our applicants you will find many outstanding candidates for such positions. We can help you find staff members who will co-operate enthusiastically in the work assigned to them.

If you are seeking an opportunity as a Physician, Nurse, or Technician, in the field of Industrial Medicine, we urge that you utilize the facilities of our Bureau. Our wide contacts in the medical and nursing professions enable us to refer to you for consideration many interesting and worth while appointments which would not otherwise come to your attention.

Our aim is to assist both employer and applicant in making contacts which will be mutually satisfactory. It has been our privilege to so serve the medical and nursing professions over a period of 45 years.

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Aznoe's-Woodward Medical Personnel Bureau

Ann Ridley Woodward, Director

30 North Michigan Avenue
Chicago, Illinois

. . . to Win Industry's Battle for Production

Malnutrition is a primary menace to the industrial worker, weakening the entire national defense structure. Government figures show that three out of four are not getting the proper nutrition to support the added demands upon their health and stamina entailed in our tremendous national defense production activity.

"Four hundred million days are lost annually due to illness and absenteeism of the industrial worker. Fifty percent is due to colds, grippe, bronchitis, etc. and what is more important, 52½% of all employees are forty years old and older which means a high incidence of degenerative ills."—***Medical Economics, Sept. 1940***

It can be said that many of these illnesses, have been successfully treated through supplemental vitamin and mineral feeding.

Science has now established that malnutrition is a major health problem. Especially when due to an insufficient intake over extended periods of nine important vitamins and eight essential minerals. Daily supplemental feeding of proper balances of vitamins and minerals can do much to decrease illness and absenteeism due to poor nutrition. Indeed optimum nutrition may thus well become the fortress of industrial defense production.

Today the medical profession knows the body functions, the deficiency effects and the interrelationships of vitamins and minerals. It knows that the most prevalent types of vitamin and mineral deficiencies are latent, sub-clinical and difficult to recognize, and it also knows the minimum daily requirements of each vitamin and each mineral: and what is more it has been proven that parallel health benefits accrue from feeding optimum amounts of certain vitamins and minerals.

KEEN EYESIGHT RESTORED WITH VITAMINS
at (Westinghouse—Mansfield, Ohio)

VITAMINS TO LESSEN ABSENTEES DUE TO COMMON COLDS
at (Westinghouse—Sharon, Pa. plant)

VITAMINS IMPROVE INDUSTRIAL HEALTH
at (Continental Machines, Inc.)

VITAMINS CURTAIL LOST LABOR HOURS
at (Eastman Kodak Company, Rochester, N. Y.)

VITAMINS TO BUILD RESISTANCE TO AILMENTS
at (Virginia Electric and Power Co.)

After years of scientific research the doctor now has available for the industrial worker a concentrated food (not a capsule or a tablet that may suggest medication) which in a single portion contains the *17 daily nutrition "musts"* (9 vitamins and 8 minerals plus four rich sources of the natural B complex, plus 100 calories of energy). The name of this new scientific food is

Each daily portion of FOODEX is comprised of two small palatable cakes (one vitamin and one mineral) chocolate flavored—weighing only one ounce; it requires no preparation, each daily supply is protected through individual scientific packaging against oxidation of vitamins or contamination of product; it can be eaten as a delicious snack or it may be mixed with water, coffee or milk for a palatable drink. It cannot spoil. The taste (chocolate) has a wide range of appeal. It is easily digested. Each daily supply of FOODEX contains high potencies of vitamins (most of them in excess of the daily minimum requirements) and proper amounts of minerals (calcium, phosphorus and iron are in excess of the daily minimum requirements).

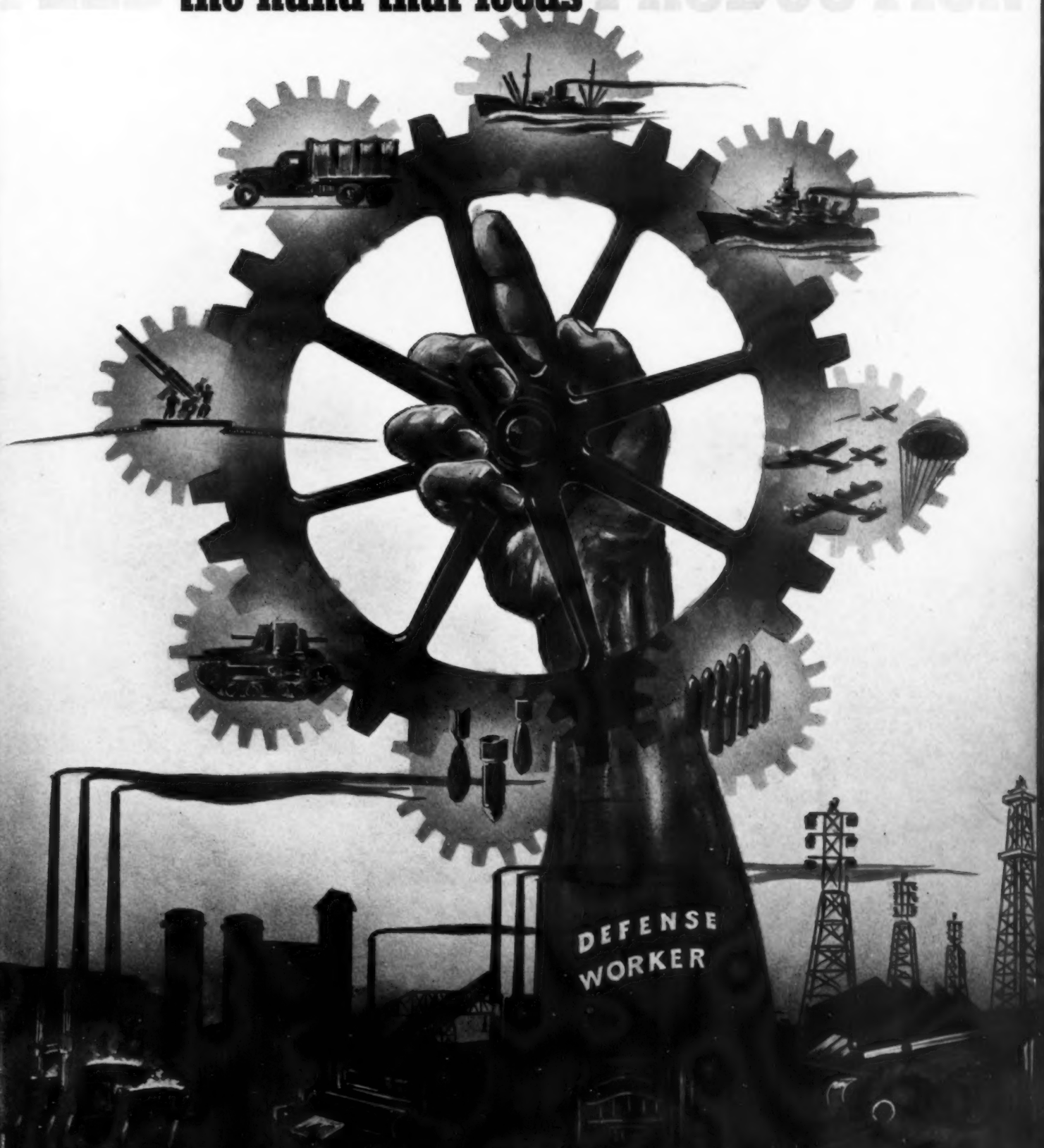
One vitamin and one mineral cake of FOODEX for Adults-Seniors contains:

VITAMINS		MINERALS	
A	10,000 Int. Units	**CALCIUM**	1.0 gram
B_1	600 Int. Units	**PHOSPHORUS**	.8 gram
B_2(G)	2,250 micrograms of Riboflavin	**IRON**	15.0 mgs.
B_6	200 micrograms of Pyridoxin	**COPPER**	1.5 mgs.
C	750 Int. Units	**MANGANESE**	1.0 mg.
D	1,000 Int. Units	**MAGNESIUM**	1.0 mg.
E	16.66 mgs. Natural Mixed Tocopherols	**IODINE**	.15 mg.
Nicotinamide	10 mgs.	**ZINC**	1.0 mg.

Plus the entire natural B complex factors and trace minerals as found in 1 gm. yeast concentrate, 1 gm. wheat germ powder, 400 mgs. rice polish powder, and 13 gms. of dry defatted milk powder.

FOODEX is a strictly ethical product and will be available only on the prescription of a doctor. (Even though it may be safely eaten by man, woman and child). A comprehensive booklet showing the value of optimum nutrition to the management and the worker, a new professional manual on "Geriatrics, the Science of Keeping Fit After 45," and a large illustrated edition entitled "Man, a Nutritive Process," samples and other valuable information are available by writing to

FEED the hand that feeds PRODUCTION



Make It a Fortress of Strength with

PROTECTIVE NUTRITION

9 Vitamins and 8 Minerals

A-B_1-B_2 G-B_6-C-D-E-B Complex Nicotinamide

Calcium Phosphorus Iodine Copper
Zinc Manganese Magnesium Iron

SCIENTIFIC NUTRITION CORPORATION • 30 Orange Street • BLOOMFIELD, N. J.

Case R: Severe burn of hand

Local Treatment: White's Vitamin A and D Ointment

FIGURE 1: Thermal burn of hand incurred in oil burner explosion. The burn is essentially second degree with small areas of probable third degree involvement. The accident occurred on November 30th, on which date this photograph was taken and treatment with White's Vitamin A and D Ointment begun.

FIGURE 2: Burn was completely healed by December 10th, only ten days after the beginning of treatment. This photograph taken on that date. Treatment consisted solely of initial cleansing and subsequent dressings with White's Vitamin A and D Ointment. No intercurrent infection—only uncomplicated local repair.

WHITE'S VITAMIN A & D OINTMENT

RAPID recovery and minimum loss of time or function may be anticipated in burns and industrial injuries treated with White's Vitamin A and D Ointment.

Not only does this method of local therapy hasten healthy granulation and epithelial repair, but it can be applied to severe burns even in locations such as hands and face without the added risk of contractures that not uncommonly may result from the local constrictive effects of coagulant methods of treatment.

White's Vitamin A and D Ointment contains vitamins A and D, derived from fish liver oils, in a suitable excipient of lanolin and petrolatum. It is a pharmaceutically elegant compound, possessing a lasting pleasing odor—remains stable and does not develop rancidity. Supplied in four convenient sizes: 1.5 oz. tubes, 8 oz. and 16 oz. jars, 5 lb. containers.

Our Medical Director will be glad to receive your inquiry concerning any phase of the use of this product. Write White Laboratories, Inc., 113 No. 13th Street, Newark, N. J.

The current urgent need to reduce lost man-hours and increase employee well-being emphasizes again the importance of suitable vitamin regimens in industry. White Laboratories occupies an enviable position in the Vitamin field. Our extensive line of Vitamin Preparations makes possible a procedure suited to your organizational requirements. We invite consultation on the possibilities of such a program for your organization.